Setup Visual Studio Code for C & C++

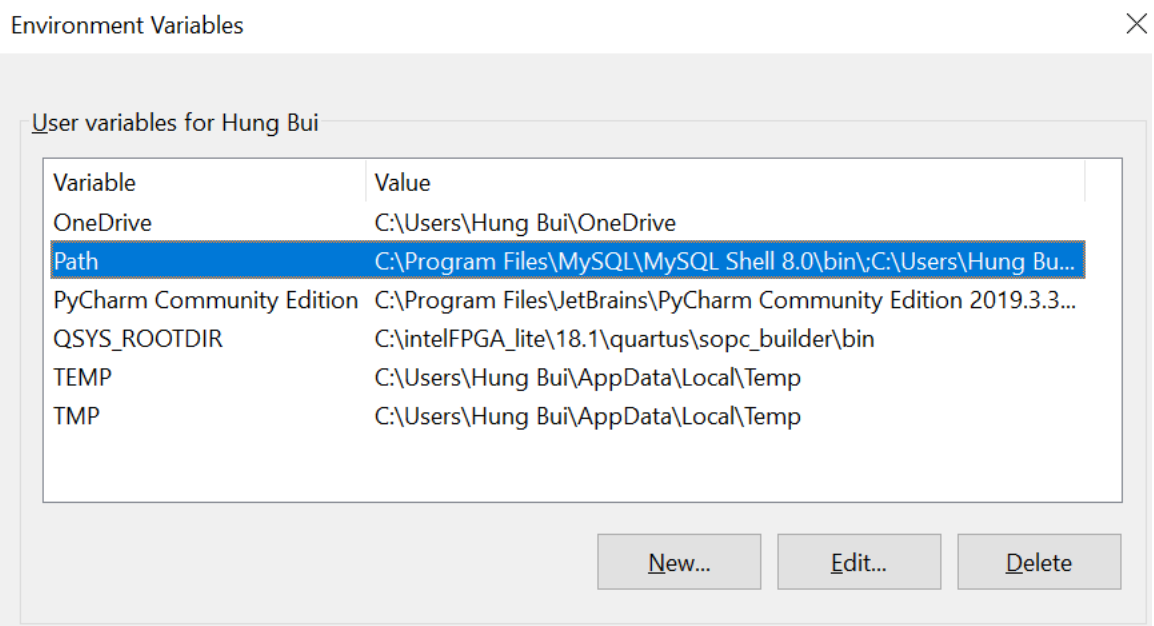
Download

https://sourceforge.net/projects/mingw-w64/files/Toolchains%20targetting%20Win32/Personal%20Builds/mingw-builds/installer/mingw-w64-install.exe/download

MingW-W64-builds

```
C:\mingw-w64
```

Add Path



Environment Variables

User variables for Hung Bui

Variable	Value
OneDrive	C:\Users\Hung Bui\OneDrive
Path	C:\Program Files\MySQL\MySQL Shell 8.0\bin\;C:\Users\Hung Bu...
PyCharm Community Edition	C:\Program Files\JetBrains\PyCharm Community Edition 2019.3.3...
QSYS_ROOTDIR	C:\intelFPGA_lite\18.1\quartus\sopc_builder\bin
TEMP	C:\Users\Hung Bui\AppData\Local\Temp
TMP	C:\Users\Hung Bui\AppData\Local\Temp

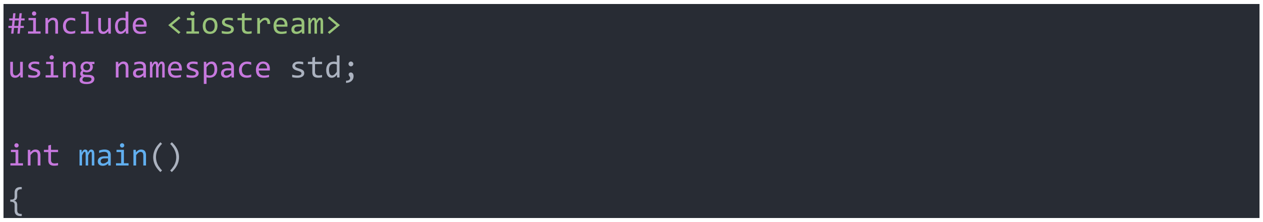
C:\mingw-w64\mingw32\bin

Check

```
g++ --version
gdb --version
```

Create C++ File

VSCode > New cpp file

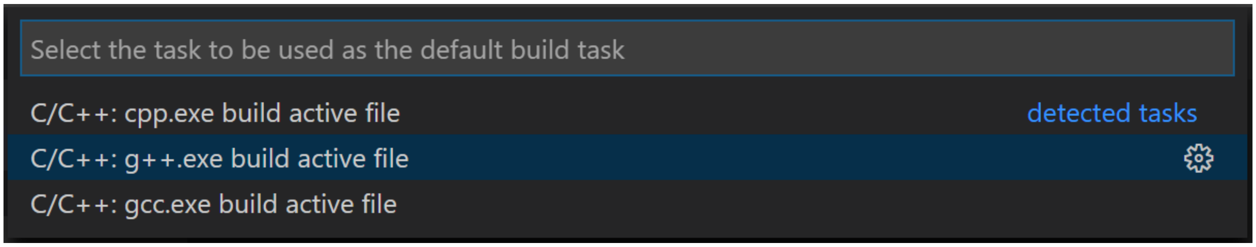


```
#include <iostream>
using namespace std;

int main()
{
    cout << "Hello World!";
}
```

Create tasks.json

main menu, choose **Terminal** > **Configure Default Build Task**



Select the task to be used as the default build task

C/C++: cpp.exe build active file — detected tasks

C/C++: g++.exe build active file

C/C++: gcc.exe build active file

>> đc file {} tasks.json trong thư mục .vscode

```
{
  "tasks": [
    {
      "type": "shell",
      "label": "gcc.exe build active file",
      "command": "C:\\mingw-w64\\mingw32\\bin\\gcc.exe",
      "args": [
        "-g",
        "${file}",
        "-o",
        "${fileDirname}\\${fileBasenameNoExtension}.exe"
      ],
      "options": {
        "cwd": "C:\\mingw-w64\\mingw32\\bin"
      }
    }
  ],
  "version": "2.0.0"
}
```

Nhớ dẫn tới đúng `C:\\mingw-w64\\mingw32\\bin`

Buid & Run

- Ctrl + Shift + B
- + >> New Terminal >> powershell

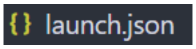
- Dir >> check xem có file .exe chưa
- run `helloworld` in the terminal by typing `.\helloworld.exe`

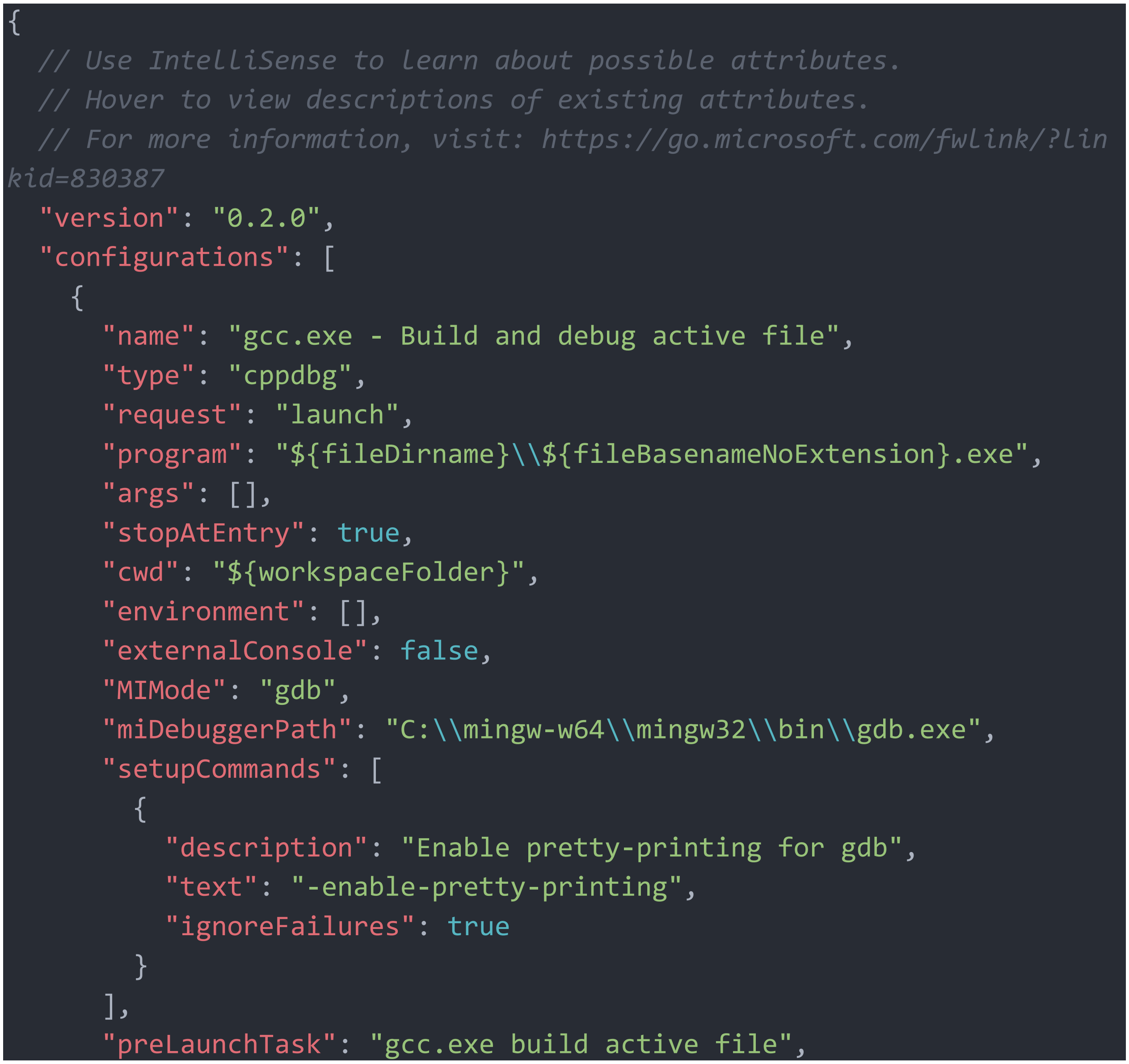
Build Multiple Files

modify your `tasks.json` to build multiple C++ files by using an argument like **`"${workspaceFolder}\\*.cpp"`** instead of `${file}`. This will build all `.cpp` files in your current folder.

Debug

- main menu, choose **Run** > **Add Configuration...** and then choose **C++ (GDB/LLDB)**.
- Choose **g++.exe build and debug active file**.

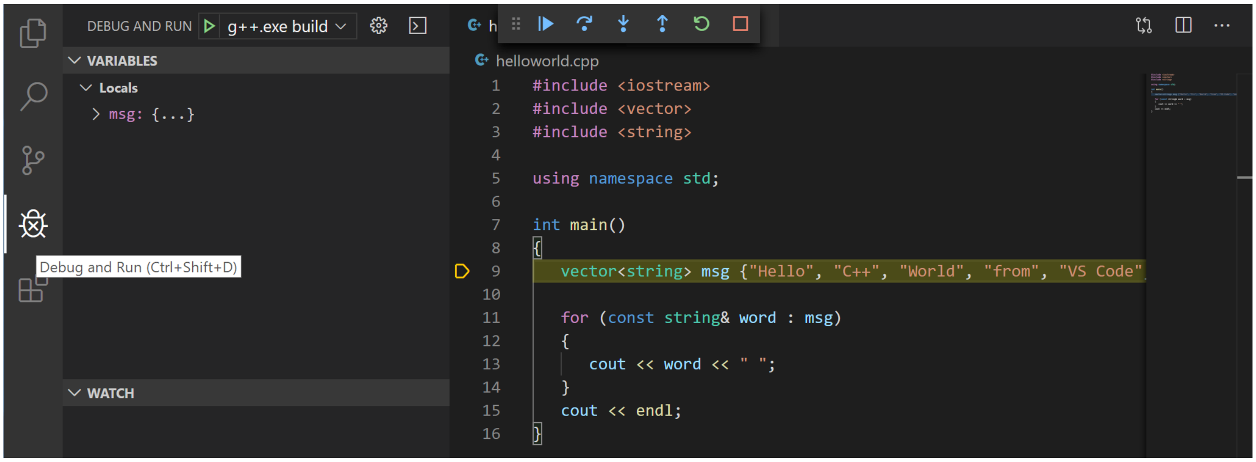
Lúc này sẽ có file  {} launch.json



```
{
  // Use IntelliSense to learn about possible attributes.
  // Hover to view descriptions of existing attributes.
  // For more information, visit: https://go.microsoft.com/fwlink/?linkid=830387
  "version": "0.2.0",
  "configurations": [
    {
      "name": "gcc.exe - Build and debug active file",
      "type": "cppdbg",
      "request": "launch",
      "program": "${fileDirname}\\${fileBasenameNoExtension}.exe",
      "args": [],
      "stopAtEntry": true,
      "cwd": "${workspaceFolder}",
      "environment": [],
      "externalConsole": false,
      "MIMode": "gdb",
      "miDebuggerPath": "C:\\mingw-w64\\mingw32\\bin\\gdb.exe",
      "setupCommands": [
        {
          "description": "Enable pretty-printing for gdb",
          "text": "-enable-pretty-printing",
          "ignoreFailures": true
        }
      ],
      "preLaunchTask": "gcc.exe build active file",
      "avoidWindowsConsoleRedirection" : false,
      "logging": {"programOutput":true}
    }
  ]
}
```

"miDebuggerPath": "C:\\mingw-w64\\mingw32\\bin\\gdb.exe" phải đúng đường dẫn mới có output trong terminal

Change the `stopAtEntry` value to `true` to cause the debugger to stop on the `main` method when you start debugging



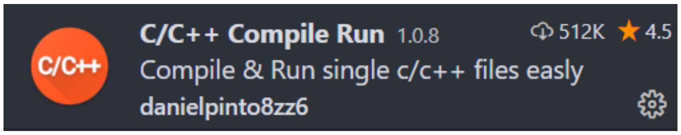
```
#include <iostream>
#include <vector>
#include <string>

using namespace std;

int main()
{
    vector<string> msg {"Hello", "C++", "World", "from", "VS Code"

    for (const string& word : msg)
    {
        cout << word << " ";
    }
    cout << endl;
}
```

Nếu muốn chạy C >> Cài extension

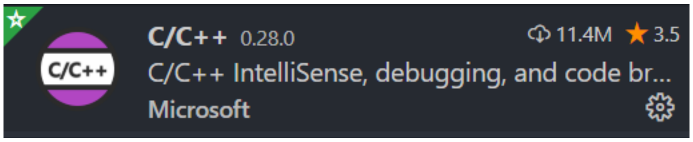


C/C++ Compile Run 1.0.8 512K ★ 4.5
Compile & Run single c/c++ files easly
danielpinto8zz6

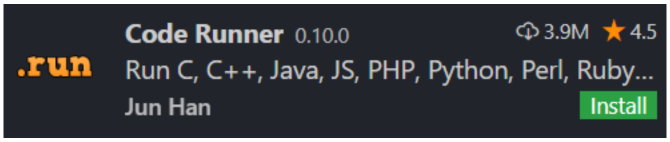
Nhấn F6 để compile & run

Debug thì như hướng dẫn ở trên

Một số extension



C/C++ 0.28.0 11.4M ★ 3.5
C/C++ IntelliSense, debugging, and code br...
Microsoft



.run

Code Runner 0.10.0

3.9M ★ 4.5

Run C, C++, Java, JS, PHP, Python, Perl, Ruby...

Jun Han

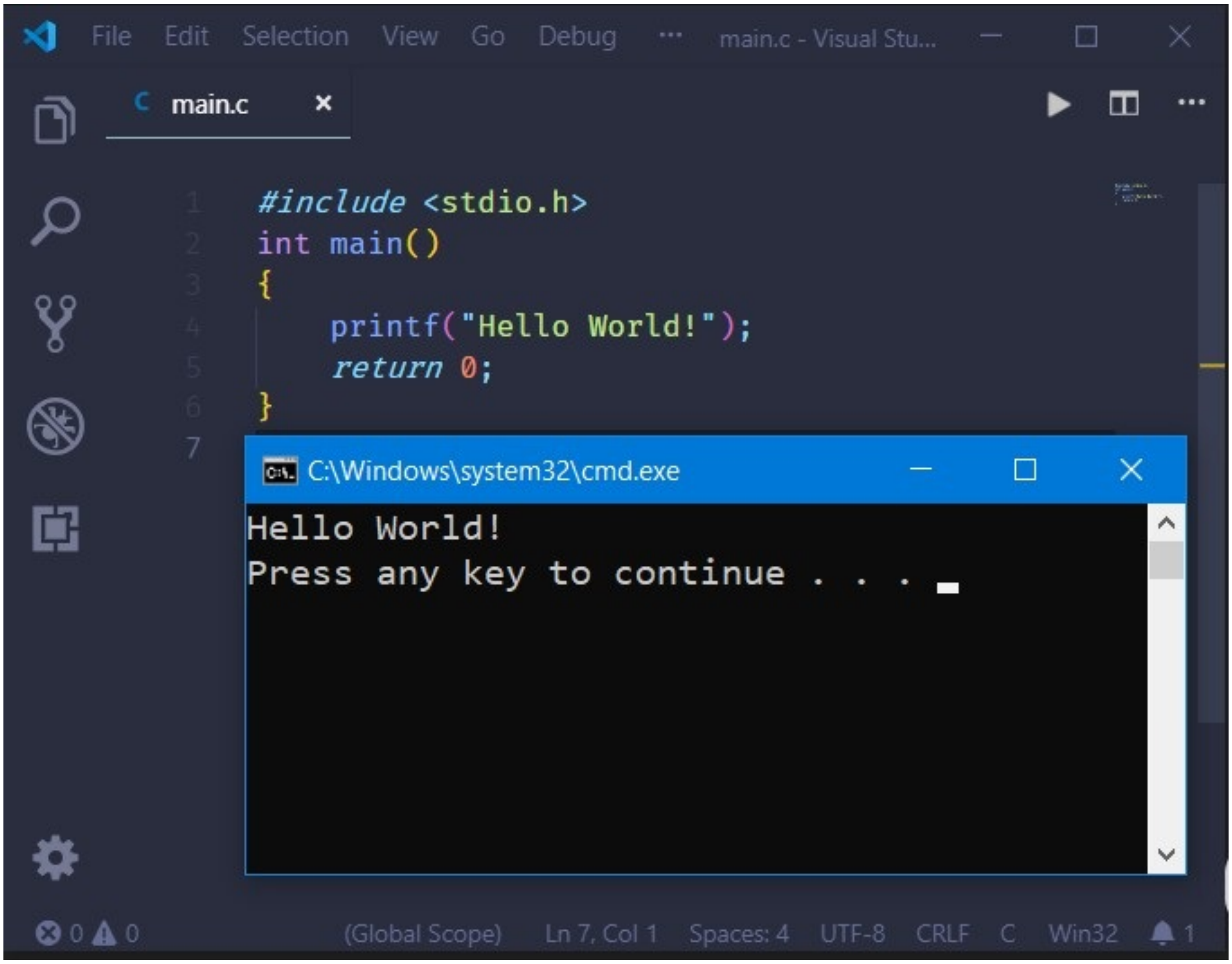
Link: https://code.visualstudio.com/docs/cpp/config-mingw

https://www.freecodecamp.org/news/how-to-compile-your-c-code-in-visual-studio-code/

https://www.9to5programmer.com/2019/06/how-to-compile-c-program-in-vs-code.html

For Windows:

1. Install MinGW or Dev C++
2. Open Environment Variables
3. In System Variable select Path -> Edit -> New
4. Copy this `C:\Program Files (x86)\Dev-Cpp\MinGW64\bin` to the New window. (If you have MinGW installed copy its /bin path).
5. To check if you have added it successfully: Open CMD -> Type "gcc" and it should return: `gcc: fatal error: no input files compilation terminated.`
6. Install C/C++ for Visual Studio Code && C/C++ Compile Run || Code Runner
7. If you installed only C/C++ Compile Run extension you can compile your program using F6/F7
8. If you installed the second extension you can compile your program using the "play" button in the top bar.



```c
#include <stdio.h>
int main()
{
    printf("Hello World!");
    return 0;
}
```

```
Hello World!
Press any key to continue . . .
```